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Sustainability In the Era of SEEDS

**Moving Out While Aligning with the Overall
Earth Science Mission & Objectives**

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(ESIP Federation)**

Tuesday March 18, 2003

Historic Inns of Annapolis

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Outline of Presentation

- 1. ESIP Federation**
- 2. Foundation for Earth Science**
- 3. Sustainability**

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The Federation of Earth Science
Information Partners brings together:

Government agencies

Universities



Non-profit organizations
and businesses

**in an effort to make Earth Science information
available to a broader community.**

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- **Federation Executive Committee**
- **Monthly Telecons**
- **Procedures & Processes**
- **Preparing for Influx of REASoN projects**
 - **Streamlining the Process of Joining the Federation**
- **Looking to the Foundation for innovative ideas and marketing**
- **Key new Working Groups Formed**



Executive Committee Meeting
December 17-18, 2002





- **Electronic Presence**

- Chair – Jim Frew

- **Electronic Journal**

- Chair – Menas Kafatos
 - The journal would be tied to the Federation so that the work of producing data can be recognized/published.
 - Independent editorial board
 - Documentation for data, science approval, metadata would all be possible content areas.



Executive Committee Meeting
December 17-18, 2002



- **Principal current role above and beyond the sum total of the contributions of individual ESIPs:**
 - *To support members of the Federation.*
- **Other roles have been secondary:**
 - *Setting standards.*
 - *Developing technologies*
 - *Assessing performance (metrics).*
 - *Encouraging/enabling the development of Earth Science information beyond the Federation.*
- **We must reverse these priorities.**

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- **To that end...**
- **ESIP Federation formed a new entity in order to address new members, sponsors and the needs of both beyond the immediate science community**
- **The membership of the ESIP Federation formed a legal entity:**
- **The Foundation for Earth Science**



- **Working toward becoming a global resource for earth science knowledge**
- **Leverage data utilization & reuse for myriad of applications**
- **International participation very likely in 2003**
 - **APEC, Africa, Greece**
 - **Thoughts of an international conference in near future**
- **Positioning the ESIP Federation to address cross-agency and international projects that make the Federation a real player in answering key questions**
- **Federation input into SEEDS is critical**
 - **Levels of Service, Metrics, Archiving, Reuse,**
 - **SEEDS be developed in a way that allows for additional data while supporting ESE Goals**



- **Foundation for Earth Science**
 - **Legal entity (501 c 3) corporation in Washington, DC**
 - **Formed by members of the ESIP Federation**
 - **Goal to “Do the Work of Earth Science”**
 - **Along the same lines of NASA ESE but much broader to address other agencies, corporations and non-profits goals and objectives**
 - **Root of any solution addressed – Earth Science**
- **Working on innovative ways to generate income to support Foundation Activities**
- **International Interest & Coordination Role in Matching Needs with Expertise**



- **Foundation for Earth Science**

- **Current services being provided include:**
 - **Administrative (Telecons, minutes, coordination)**
 - **Meeting support, logistics, planning**
 - **Strategic planning for future service support to Federation/SEEDS**
 - **Fund Raising plans and objectives**
- **Strategic Planning Office for ESIP Federation**
 - **Working with members to further Earth Science:**
 - **Research**
 - **Applications**
 - **Decision Support**
- **Budget Planning**
- **Building the organization and the Roadmap**

Vision / Plan

- **Have attracted our first Donor**
- **Much more flexibility in how we move forward**
- **West Wing may be named “Pat Reiff Wing”**
- **Vision:**
- **To generate global support for earth science and bring the best teams together to address sponsor needs**



Shown above:
Philanthropist Dr. Patricia Reiff donates
US \$100.00
To the Foundation for Earth Science

Vision / Plan

- **In the first year of existence:**
- **Developed “Rules for Fundraising”**
- **Have a current Board of Directors**
- **Formulating marketing plans**
- **Interviewed many ESIPs in January**
- **Began to identify key organizations to contact for future Foundation meetings**





Comments on SEEDS Recommendations

Foundation Comments

Many of the SEEDS contributors are Federation members.

The Federation seems to be best-positioned to be involved in metrics. It has a mechanism for collecting metrics including “nuggets” and raw metrics.

The Foundation is keenly interested in reporting and performance data as it looks to highlight key member successes in its fundraising and general Federation marketing efforts.

We would like to see NASA extend its metrics focus to include, when appropriate, socio-economic impact of its funded data projects.



Comments on SEEDS Recommendations

Comments

There is an overemphasis on format standards, rather than interface standards. The Federation's GIS Services Cluster has enabled numerous sites to install WMS servers. We have successfully demonstrated WMS usage.

Also, there is under emphasis on web service standards that are widely used in business.



Comments on SEEDS Recommendations

Comments

First of all, SEEDS recommendations can help us building an interoperable Digital NGP. For example, it recommends several file formats, software used to write metadata, what format should be for metadata, and where to report metadata.

Secondly, while SEEDS highly emphasizes the interoperability, I feel that it is more on the data format side, e.g., HDF, GeoTIFF, etc.

What we like to see is the system-system interoperability, which is that one system can serve as a proxy of a user to retrieve the data from another system transparently to the user. To do this, we need to know how to access data at a system level. From the SEEDS' point of view, each DSP (data service provider) should provide a description on the data access at the system level. This is critical in linking all the DSPs together to form a nation wide network. This could go to either Level of Service or Data and Information Standards.



Comments on SEEDS Recommendations

Comments

The stated SEEDS goals are very similar to those for the ESIP Federation:

- 1) maximize utility of products,**
- 2) leverage the community, and**
- 3) improve services.**

In spite of this similarity, it almost seems that the recommendations and even the Study Team topics themselves eliminate consideration of many of the lessons learned in the Federation.

For example, the possible benefit of bringing the science community closer to the decisions concerning the data doesn't seem to fit in as a recommendation.



Comments on SEEDS Recommendations

Comments

How do you even comment given the seven study teams as summarized in the table on page 9. Nowhere do the teams address who is in the stakeholder community, let alone how to engage them. Yet involving stakeholders is one of the three stated goals.

I think we said very early that to do “levels of service” independent of value was strange. Why bother talking about “costs” without reference to benefits?

Many decisions for the study teams such as choice of standards or allocation of resources to interface development, new technology, or longterm archiving depend on cost and value. Where do they even discuss “value to what?” Is it to science, to intriguing congress, to business and the economy, to saving life on Earth...?



Comments on SEEDS Recommendations

Comments

The Metrics team studied only those metrics needed for accountability to NASA managers. The choice of metrics that would be required to compare products and services across DSPs in order to build teams and value chains doesn't seem to be there at all. There doesn't seem to be a process for using the metrics to establish the perceived or real value or "utility" of the products and services to specific communities.



Comments on SEEDS Recommendations

Dave Observations-

It is critical that the private sector (data and information services) will need quick access to data to service its clients.

In addition, it is critical in order to address NASA ESE's vision out to 2025 that cross-agency participation in earth science-related activities and events be made relatively seamless. To do this means enabling SEEDS to address data issues outside of the Enterprise. This is a challenging task.

It will be cost-prohibitive for private sector organizations to develop disparate solutions to processing various agency data and information. Partnerships are needed.



Comments on SEEDS Recommendations

Comments

Relationships Among Government, University, Commercial Data Providers and Stakeholders

Cooperative Agreements and relationships among all involved should be established. It is critical that any organization in the future that receives funding from NASA or any other agency as it relates to earth science should adhere to the principals and practices of responsible data preparation, storage, archive and distribution.

Future missions must plan for success and plan for quick transition to operational use of the data. Plans must be made therefore to expedite the transition from research to operations.



Comments on SEEDS Recommendations

SEEDS should accelerate the ability to show the world that earth science can address global issues quickly.

What is critical to understand in this era of sustainability is:

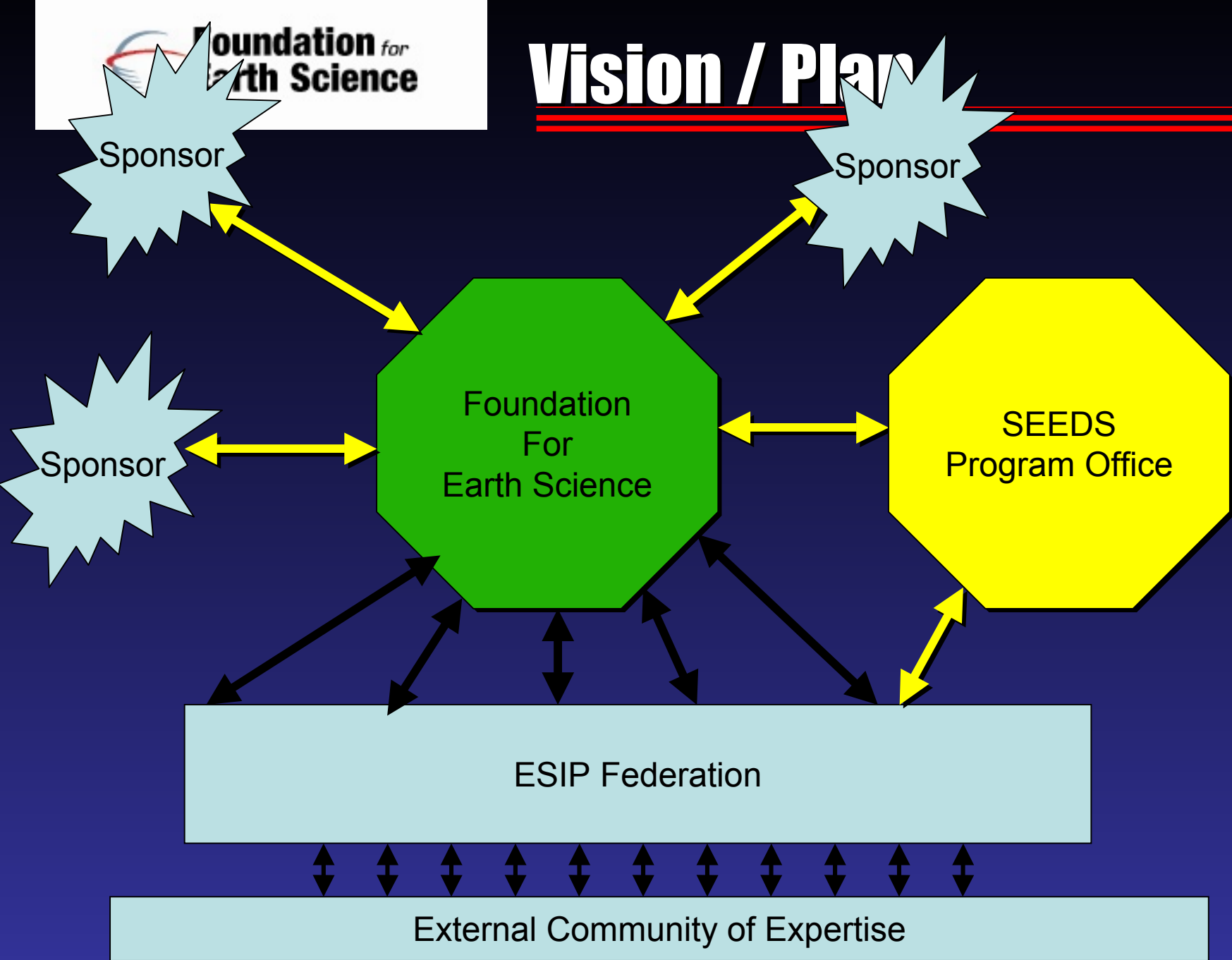
To what extent do future sensors NEED to produce the huge amounts of data scientists think are necessary to better understand the earth system. How much data is enough? (Dave's 40% Rule)

Future missions must understand more clearly the implications of gathering so much data. What drives the costs of ground processing systems, distribution systems, archiving and access systems?

Even in a distributed environment...can the distributors keep up?



Vision / Plan



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Thank You